



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Toui et al.

Serial No.: 09/851,983

Art Unit: 1712

Filed : May 9, 2001

Examiner: Marc S. Zimmer

Title : Top Coating Composition

K/L  
4/13/03  
PL

DECLARATION UNDER 37 C.F.R. § 1.132

Honorable Commissioner of Patents and Trademarks,  
Washington, D.C. 20231

Sir:

I, HISAKI TANABE, a citizen of Japan and having postal  
mailing address of 7-9, Yawata Musashishiba, Yawata-city,  
Kyoto, 614-8052 JAPAN, declare and say that:

In March 1977, I graduated from Osaka University,  
and received a Bachelor degree;

From April 1977, up till the present, I have been  
employed by Nippon Paint Corporation, and engaged in

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research and development for automotive coatings in

product development in the automotive coatings division;

I am one of the inventors of the above-identified application and am familiar with the subject matter of

the above-identified application;

I have read the Official Action mailed and the references cited therein and am familiar with the subject matter thereof;

I respectfully submit herewith my exact report thereon;

In order to demonstrate that silicate-grafted resin (IV) resulting from graft polymerization of a silicate compound (II) onto a hydrolysable silyl-containing resin (III) is more excellent than the top coating composition

which comprises a silicate compound (II) and a hydrolysable

silyl-containing resin (III) in preventing whitening

after water resistance testing and in water resistance,

I have evaluated the turbidity and adhesion of the coating

films obtained in Examples and Comparative Examples of

the specification. The results are shown in Table 1.

#### Evaluation Method

(1) Turbidity (transmittance of all light rays)

The clear films were evaluated for transmittance of

all light rays (400 to 700 nm within the visible light

range) determined by using Spectrophotometer (U-3200,

product of Hitachi Instruments Service). The value of

100 % means that the evaluated clear film does not absorb

any light ray. Thus the higher value means that the clear film has higher transparency.

(2) Adhesion after water resistance test

Each coated panel was immersed into a water tank at 40°C for 10 days. Then, the coated panel was subjected to grid pattern cutting using a cutter knife to form 100 squares with a width of 2 mm. An adhesive cellophane tape was affixed on the surface thereof and then rapidly peeled off. Squares remaining unpeeled were counted.

100/100 Good (There was no peeled area.)

0/100 Inferiority (All over the surface was peeled.)

Table 1

		Example					Compar. Ex.		
		1	2	3	4	5	1	2	3
Formulation	A	10					10		
	B		20					20	
	C			30					
Silicate compound	D	5							
	E		20	30					
	F				56				
Hydrozable silyl-containing resin	G					125			
	OH-containing resin*1	49	42	37	29		49	42	
	Polyisocyanate*2	46	38	33	35	21	46	38	48
Organic film-forming component	Components	10	20	30	20	46	10	20	0
	% Hydrolyzable silyl-containing resin relative to total resin components	5	20	30	0	0	0	0	0
	% Silicate-grafted resin relative to total resin components	0	0	0	47	86	0	0	0
Turbidity transmittance of all light rays	90% humidity	87	86	82	91	91	56	45	90
	70% humidity	84	85	82	92	90	49	43	91
	50% humidity	85	82	81	90	89	45	40	90
Adhesion after water resistance		98/100	85/100	80/100	100/100	100/100	0/100	0/100	100/100

\*1:Mitsubishi Rayon's Dianal IR 2562 (ORV=166, number average molecular weight=4000, nonvolatile matter = 61%)

\*2:Mitsubishi Chemical's Mitec NY 215A (nonvolatile matter=75%)

The result shows that silicate-grafted resin (IV) resulting from graft polymerization of a silicate compounds (II) onto a hydrolysable silyl-containing resin (III) (Examples 4 and 5) is more excellent than the top coating composition which comprises a silicate compound (II) and a hydrolysable silyl-containing resin (III) (Examples 1-3) in preventing whitening after water resistance testing and in water resistance.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

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punishable by fine or imprisonment, or both, under Section

1001 of Title 18 of the United States Code and that such

willful false statements may jeopardize the validity of

the application or any patent issued thereon.

Signed this                    day of January, 2003

Kicaki Tanabe

Hisaki Tanabe